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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/509,178	09/27/2004	Manfred Heim	2732-146	5202
6449 7590 02/12/2009 ROTHWELL, FIGG, ERNST & MANBECK, P.C. 1425 K STREET, N.W. SUITE 800 WASHINGTON, DC 20005				
EXAMINER SHEWAREGED, BETTELHEIM				
ART UNIT		PAPER NUMBER		
1794				
NOTIFICATION DATE		DELIVERY MODE		
02/12/2009		ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PTO-PAT-Email@rfem.com

### Office Action Summary

**Application No.**

10/509,178

**Applicant(s)**

HEIM ET AL.

**Examiner**

Betelhem Shewareged

**Art Unit**

1794

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 January 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 and 16-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 and 16-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SI/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

#### **DETAILED ACTION**

1. Applicant's response along with the Request for Continued Examination (RCE) and the Declaration under 37 CFR 1.132 filed on 01/29/2009 have been fully considered. Claim 15 is canceled, and claims 1-14 and 16-37 are pending.

#### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-14 and 16-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaule et al. (US 6,146,773) in view of Hofmann et al. (US 4,791,017), Witzman et al. (US 6,202,591 B1) and Applicant's admission.

4. Kaule teaches a security document with an embedded security thread (col. 2, lines 59-67 and Fig. 1). The security thread consists of a magnetic layer of iron or nickel, which is applied to a paper by resistance heating or electron beam evaporation (col. 3, lines 2-5, 16-19 and 39-42). In addition, the magnetic layer of iron or nickel can be coated with a further metallic layer, e.g. of a copper alloy, so as to bring about golden color effects (col. 4, lines 2-13). The claimed foreign metal is equivalent to any impurity that is contained in the alloy. Kaule does not expressly disclose how the colored metallic layer is produced, however, it can be expected that the layer is produced with the same method as the layer of iron that is, using resistance heating or

electron beam evaporation. Claims 2-5, 8-11, 13, 17-20, 23-25 and 27-35 do not appear to contain any additional features which, could lead to a subject matter that is novel. In fact, these claims relate to features which are either wholly standard in the art or lie within the scope of expert ability. *Ex parte Masham*, 2 USPQ2d 1647 (1987).

5. Kaule does not teach specific types of copper alloy. Hofmann teaches different types of copper containing alloys are provided on a coated substrate (Fig. 7 and Examples). Kaule and Hofmann are analogous art because they are from the same filed of endeavor that is the metallized film art. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the alloys of Hofmann with the invention of Kaule so as to provide a golden color coating.

6. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to control the amount of the copper and/or the rest of the metal(s) in the alloy, so as to optimize the appearance of the color of the coating. Even though the thickness of the metallic layer of Kaule is not disclosed, it is taught in Hofmann that it is advantageous to have the thickness within a range of 0.05-1.0 micron (col. 3, line 40 of Hofmann).

7. Furthermore, in [0022] of the current specification, Applicant admits that the use of transmission and/or reflection optical devices for transmission and/or reflection measurement is known to persons skilled in the art. In addition, controlling coating thickness by adjusting heating power and/or path speed is well known before the current invention in the vapor deposition process art. **See col. 7, lines 48-58 of Witzman**, wherein the reference discloses a heater power supply and/or substrate drive

are regulated by a control circuit responsive to a coating control monitor that measures a property of the coating, which is indicative of the film thickness. This permits the use of source power as well as substrate transport speed (web speed) for temporal control of deposition rate, improving the down web uniformity, without deterioration in cross web uniformity. Furthermore, Witzman teaches that the evaporation source is constructed and used in a manner that facilitates rapid startup and cool down, thus improving cycle time. This is accomplished by the source having a fast temporal response to changes in input power, permitting continuous control of the deposition rate and providing the economic advantages of a short time for heating up (to the deposition temperature during start-up) and cooling down (for re-loading substrate and/or source material) (col. 7, lines 59-67). Kaule and Witzman are analogous art because they are from the same filed on endeavor that is the metallized film art. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Witzman with the invention of Kaule, and the motivation would be controlling the coating thickness which in turn controls coated color composition.

### ***Response to Arguments***

8. Applicant argument is based on that Kaule fails to teach or suggest steps of measuring the color composition of a precious-metal-colored coating by reflection measurement, comparing the measured color composition to a desired color composition and correcting deviations in the color composition of the coating, from the desired color composition, by adjusting at least one of a heating power and an energy

of an electron beam. Hofmann fails to cure the deficiencies of Kaule; and Witzman fails to cure the above-described deficiencies in Kaule because (1) Witzman is concerned with color uniformity, whereas correcting color uniformity is not correcting deviations in color composition, and (2) Witzman's correction of thickness is for single component coatings, and not applicable to multiple component coatings. These arguments are not persuasive for the following reasons.

(1) The steps of measuring the color composition of a precious-metal-colored coating by reflection measurement, comparing the measured color composition to a desired color composition and correcting deviations in the color composition of the coating, from the desired color composition, by adjusting at least one of a heating power and an energy of an electron beam are taught by Witzman not by Kaule.

(2) The multiple components (i.e., the metal alloy and the iron or nickel) are taught by the reference of Kaule. Hofmann is used to teach the claimed specific type of metal alloy; however, Hofmann is not used to teach the steps of measuring the color composition of a precious-metal-colored coating by reflection measurement, comparing the measured color composition to a desired color composition and correcting deviations in the color composition of the coating, from the desired color composition, by adjusting at least one of a heating power and an energy of an electron beam.

(3) Witzman is not used to teach the claimed multiple components; however, the multiple components are taught by the reference of Kaule. Witzman teaches the heater power supply and/or substrate drive are regulated by a control circuit responsive to a coating control monitor that measures a property of the coating, which is indicative

of the film thickness (col. 7, lines 49-52). Coating thickness is related to coated color composition. In Witzman the coating control monitor measures the coating thickness which meets the claimed measuring the coated color composition. The control circuit is responsive to the coating control monitor, and based on the measurement/reading of the coating control monitor the control circuit regulates the heater power supply and/or substrate derive, which in turn controls the coating thickness. Thus "comparing the measured color composition to a desired color composition and correcting deviations in the color composition of the coating, from the desired color composition, by adjusting at least one of a heating power and energy of an electron beam" is taught by Witzman. Furthermore, in the current invention the evaporating material is regulated by changing the evaporation rate of the *individual* components in the multicomponent evaporating material, e.g. by increasing or decreasing the electron beam energy or the heating power (page 6, paragraph 24). Even though this part of the invention is not expressly recited in the claims, the claimed invention is interpreted in light of the current specification; thus Witzman's correction of thickness is for single component coatings is applicable.

9. For the above reason claims 1-14 and 16-37 stand rejected.

### ***Conclusion***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Betelhem Shewareged whose telephone number is (571)272-1529. The examiner can normally be reached on Monday-Friday 9am-5pm.

11. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Keith Hendricks can be reached on 571-272-1401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.
12. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BS  
February 9, 2009.

/Betelhem Shewareged/  
Primary Examiner, Art Unit 1794